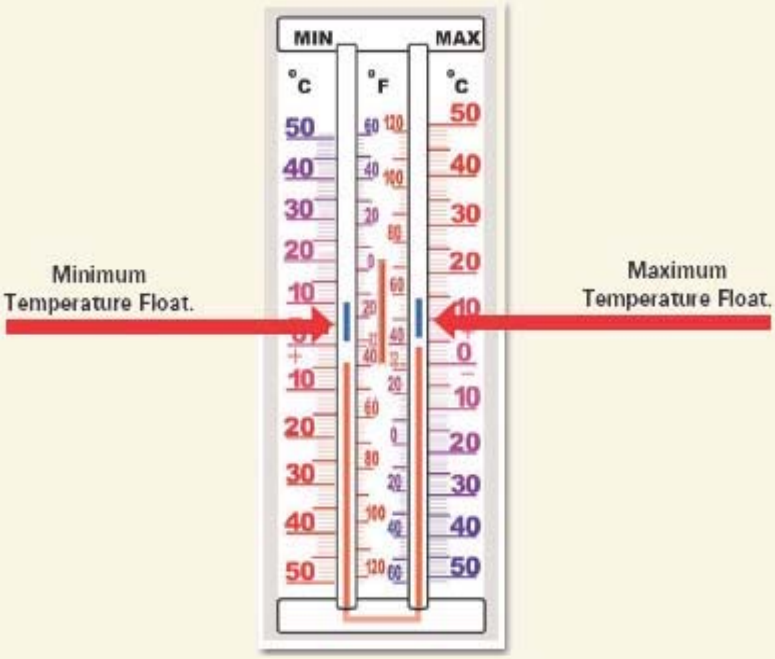
How to Read a Liquid Minimum/Maximum Thermometer

How It Works

Liquid minimum/maximum thermometers consist of 2 interconnected glass columns containing a mercury-free liquid. As the temperature changes, the liquid rises in one column and falls an equal distance in the other column. Each column has one or two numbered scales beside it (Fahrenheit and/or Celsius). These scales run in opposite directions so that the scale beside the “minimum” column is upside down compared to the scale beside the “maximum” column. As the mercury-free liquid rises and falls with the change of temperature, the maximum and minimum temperatures are captured for any given time period by means of two colored floats. The maximum temperature column has a scale indicating warmer temperatures on the top and colder temperatures on the bottom. The minimum temperature scale is upside down, indicating colder temperatures on the top and warmer temperatures on the bottom. Make sure that the liquid minimum/maximum thermometer is reset (see step 7) when it is first placed inside the refrigerator or freezer and following each temperature check.

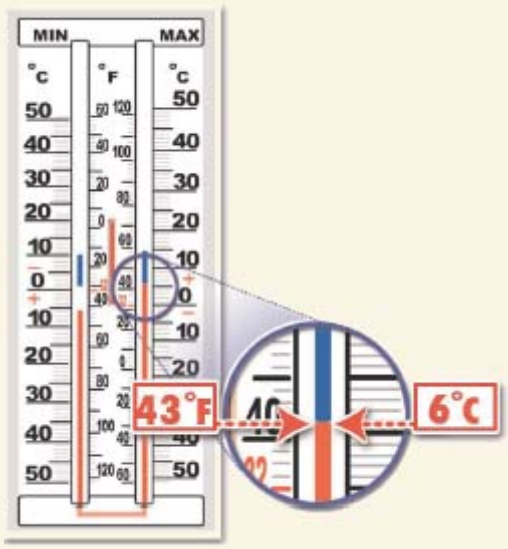
Note The minimum scale is upside-down relative to the maximum scale.



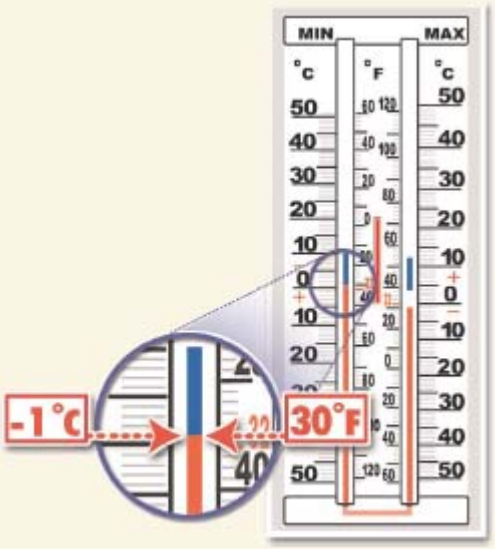
Minimum/maximum thermometer.

How to Read It

1. As the temperature changes, the floats are moved by the liquid columns. The floats “stick” at the highest and lowest temperatures until reset with the reset button.
2. The bottom of the float registers the maximum temperature on the right side and the minimum temperature on the left. Note that the minimum temperature scale is upside down.

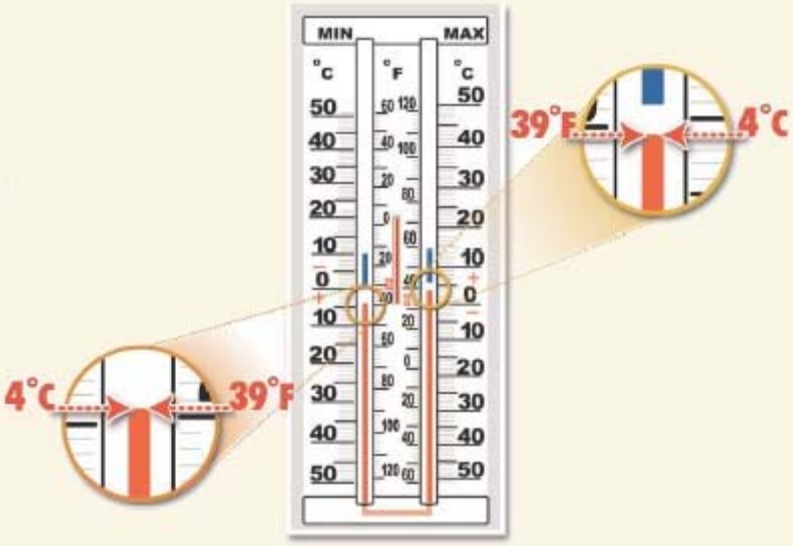


Example of maximum temperature reached: 43°F (6°C).



Example of minimum temperature reached: 30°F (-1°C).

3. The current temperature can be read using either the minimum or maximum column because they should indicate the same temperature.

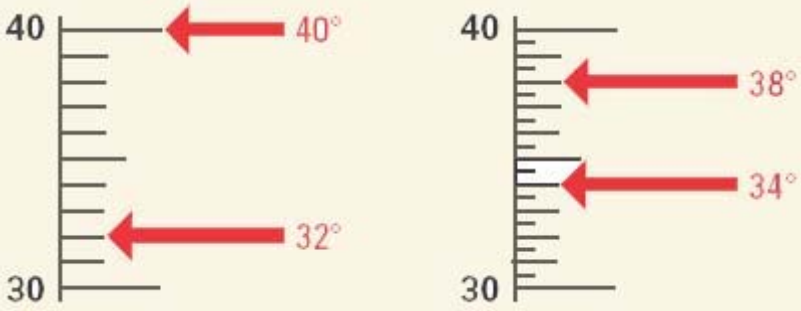


Example of current temperature: 39°F (4°C).

4. When reading the temperature, the thermometer should be vertical and your eyes should be level with the top of the liquid in the glass tube. It is preferred that the thermometer is read while still inside the vaccine storage unit. However, if this is not possible, the thermometer may be removed from the unit, read at eye level, and quickly replaced. Do not touch the liquid column and expose it to body heat because this will cause a falsely elevated temperature reading.

When reading the temperature, the thermometer should be vertical and your eyes should be level with the top of the liquid in the glass tube.

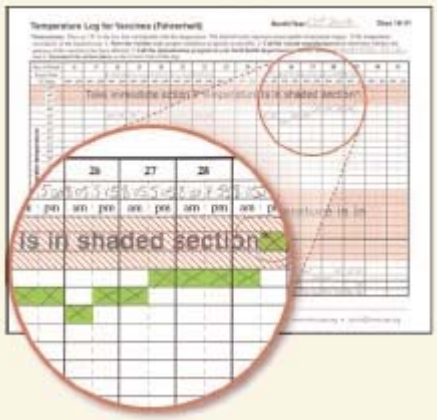
5. Read the thermometer to the appropriate number of significant digits. If there is more than one scale printed on the thermometer, always read the same scale (either °F or °C). Shown below are temperatures indicated on one-degree and half-degree Fahrenheit scales.



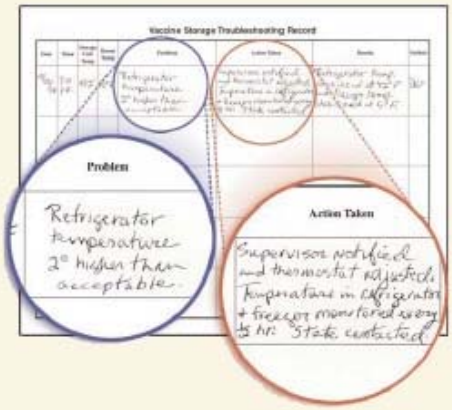
One-degree scale (sample readings). **Half-degree scale (sample readings).**

Note **Read the thermometer to the appropriate number of significant digits.**

6. Record the current temperature on front of the temperature log. Note any out-of-range temperatures and the action taken on the back of the log.

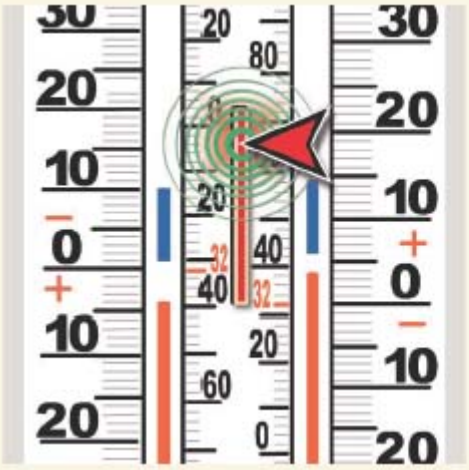


Record the current temperature on front of the temperature log.

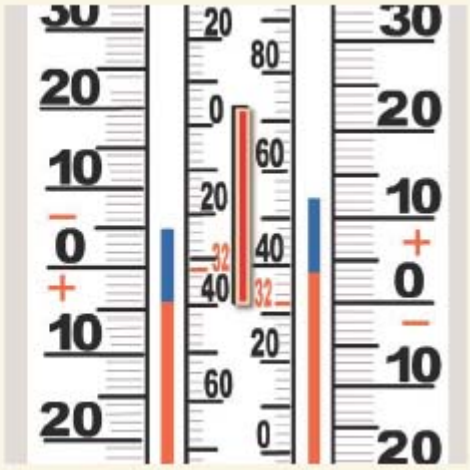


Note any out-of-range temperatures and the action taken on the back of the log.

7. Reset the thermometer only after the current, minimum, and maximum temperatures have been checked. To reset the minimum/maximum thermometer, press the reset button to bring the colored floats to rest on the top of the liquid columns on both the right and left sides. The starting temperature for both floats should be the same.



Press the Reset Button to reset the minimum/maximum thermometer.



Resetting the thermometer brings the two floats to rest at the current temperature.